

# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SMC 60285/WO		See Notification of Transmittal of International Preliminary Examination Report (Form PCT-IPEA 416) <b>FOR FURTHER ACTION</b>	
International application No PCT/GB99/00655	International filing date (day month year) 05/03/1999	Priority date (day month year) 31/03/1998	
International Patent Classification (IPC) or national classification and IPC C09D11/10			
Applicant Avecia Limited et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  18 10 1999	Date of completion of this report  02 06 2000
Name and mailing address of the international preliminary examining authority   European Patent Office D-80239 Munich Tel: +49 89 2399-101 Fax: +49 89 2399-4465 Fax: +49 89 2399-4465	Authorized officer  Van de Panne, V  Telephone: +31 44 34 1 137 84 11

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/00655

## I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

### Description, pages:

1-17 as originally filed

### Claims, No.:

1-12 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description. pages:  
☐ the claims. Nos.:  
☐ the drawings. sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Yes:	Claims	1-12
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-12
Industrial applicability (IA)	Yes:	Claims	1-12
	No:	Claims	

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB99/00655

2. Citations and explanations

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB99/00655

I The documents cited in the search report do not disclose a composition according to any of claims 1-9 or its use in ink jet printing. The subject-matter of claims 1-12 is thus novel.

II The closest prior art is represented by EP-A 616 017 ("D1"), disclosing water-based ink jet inks, suitable also for use in thermal printers, which contain a water-dissipatable polyurethane with a molecular weight of at most 5000, a colorant and a water soluble organic solvent as a humectant. See D1, claims 1 and 5-11, page 11 line 11 to page 12 line 46, page 13 lines 20-33 and lines 54-56, the synthesis examples 6-10 and the working example 10. The inks provide good printing characteristics as shown in Table 9 and mentioned in lines 48-52 of page 25. The difference with compositions of the present application is that D1 does not mention the presence of a water-immiscible solvent.

The present application does not mention why the water-immiscible solvent is added and there are no comparative examples where an ink as defined in claim 1 is compared with a similar ink lacking the water-immiscible solvent. The comparative examples C1 and C2 of the present application do not represent the prior art as exemplified by D1 and D2. The applicant suggests in his letter of 08-03-2000 that the problem is to improve the storage stability, but there is no evidence that the storage stability of the presently claimed compositions is larger than that of the compositions according to D1. There is no evidence that the water-immiscible solvent provides any particular effect and thus the problem that is to be solved by the present invention seems to be merely the preparation of a variant of the inks disclosed in D1.

It is known to add water-immiscible solvents, which have a plasticising effect, to polyurethane-containing water-based ink jet inks, see D2 claims 1 and 21-24. It is well within reach of a person skilled in the art to add a water-immiscible (plasticising) solvent to the inks of D1. The subject-matter of the present independent claims 1 and 9-12 lacks an inventive step.

The composition of the polyurethane is not different from that of the polyurethanes of D1, and the preferred  $M_w$  range largely overlaps with the

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB99/00655

preferred range of D1. D2 discloses the chemical incorporation of the colorant in the polyurethane (see claim 1) and the use of a colorant which is soluble in the polyurethane is an obvious modification of this idea. The percentages of the components of claim 5 are a variation of the percentages disclosed in D1: the ink properties of claims 7 and 8 do not differ significantly from those disclosed in D1. There is no evidence that the presence of benzyl alcohol has any special effect. The subject-matter of the dependent claims 2-8 thus does not add anything inventive to the subject-matter of claim 1.

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# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>SMC 60285/WO</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/GB 99/ 00655</b>	International filing date (day/month/year) <b>05/03/1999</b>	(Earliest) Priority Date (day/month/year) <b>31/03/1998</b>
Applicant <b>ZENECA LIMITED et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

**COMPOSITION BASED ON WATER-DISSIPATABLE POLYURETHANE**

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

GB 99/00655

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C09D11/10 C09D11/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C09D C08G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2 105 735 A (KONISHIROKU PHOTO IND) 30 March 1983 see page 2, line 5 - page 3, line 50; example 1 see page 4, line 9 - page 5, line 4 see page 5, line 24-31 ---	1-3, 7, 9-13
A	EP 0 616 017 A (CANON KK) 21 September 1994 see page 12, line 4 - page 13, line 33 ---	1, 2, 6-13
A	EP 0 732 381 A (DAINIPPON INK & CHEMICALS) 18 September 1996 see claims 1-16 ---	1
A	EP 0 769 509 A (TEKTRONIX INC) 23 April 1997 cited in the application -----	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

8 June 1999

Date of mailing of the international search report

17/06/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel: (+31-70) 340-2040, Tx 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Miller, A

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PC 99/00655

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
GB 2105735	A	30-03-1983	JP	58045272 A	16-03-1983
			DE	3233555 A	31-03-1983
EP 0616017	A	21-09-1994	JP	6264017 A	20-09-1994
			JP	6279718 A	04-10-1994
			US	5696182 A	09-12-1997
EP 0732381	A	18-09-1996	JP	8218015 A	27-08-1996
EP 0769509	A	23-04-1997	US	5700851 A	23-12-1997
			JP	9124989 A	13-05-1997



# PATENT COOPERATION TREATY

VERIFIED  
05 JUN 2000

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To  
  
MAYALL, John  
Intellectual Property Group  
Avecia Limited  
Hexagon House, P.O. Box 42  
Manchester M9 8ZS  
GRANDE BRETAGNE

## NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Rule 71.1)

Date of mailing  
(day, month, year) 02.06.2000

Applicant's or agent's file reference  
SMC 60285/WO

### IMPORTANT NOTIFICATION

International application No.  
PCT/GB99/00655

International filing date (day, month, year)  
05.03.1999

Priority date (day, month, year)  
31.03.1998

Applicant  
Avecia Limited et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER


The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

ENTERED INTO ZIF REMINDER TORNE IS ENTRY VERIFIED	DATE <b>5 JUN 2000</b>	INITIAL <i>Gr</i>
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Name and mailing address of the IPRA

 European Patent Office  
D-80299 Munich  
Tel +49 89 2399-0 Fax +49 89 2399-4444  
Fax +49 89 2399-4444

Authorized officer

Fabiani

Tel +49 89 2399 5111

PCT

**NOTIFICATION OF THE RECORDING  
OF A CHANGE**

(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

MAYALL, John  
Intellectual Property Group  
Avecia Limited  
Hexagon House, P.O. Box 42  
Blackley  
Manchester M9 8ZS  
ROYAUME-UNI

RECEIVED  
13 SEP 1999

<b>Date of mailing (day/month/year)</b> 01 September 1999 (01.09.99)	<b>Applicant's or agent's file reference</b> SMC 60285/WO
<b>International application No.</b> PCT/GB99/00655	<b>International filing date (day/month/year)</b> 05 March 1999 (05.03.99)

1. The following indications appeared on record concerning: <input checked="" type="checkbox"/> the applicant <input type="checkbox"/> the inventor <input type="checkbox"/> the agent <input type="checkbox"/> the common representative									
<b>Name and Address</b> ZENECA LIMITED 15 Stanhope Gate London W1Y 6LN United Kingdom	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"> <b>State of Nationality</b>                      GB                 </td> <td style="width: 50%; padding: 2px;"> <b>State of Residence</b>                      GB                 </td> </tr> <tr> <td colspan="2" style="padding: 2px;"> <b>Telephone No.</b> </td> </tr> <tr> <td colspan="2" style="padding: 2px;"> <b>Facsimile No.</b> </td> </tr> <tr> <td colspan="2" style="padding: 2px;"> <b>Teleprinter No.</b> </td> </tr> </table>	<b>State of Nationality</b> GB	<b>State of Residence</b> GB	<b>Telephone No.</b>		<b>Facsimile No.</b>		<b>Teleprinter No.</b>	
<b>State of Nationality</b> GB	<b>State of Residence</b> GB								
<b>Telephone No.</b>									
<b>Facsimile No.</b>									
<b>Teleprinter No.</b>									

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: <input type="checkbox"/> the person <input checked="" type="checkbox"/> the name <input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence									
<b>Name and Address</b> AVECIA LIMITED 15 Stanhope Gate London W1Y 6LN United Kingdom <i>correct address sent to IB</i>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"> <b>State of Nationality</b>                      GB                 </td> <td style="width: 50%; padding: 2px;"> <b>State of Residence</b>                      GB                 </td> </tr> <tr> <td colspan="2" style="padding: 2px;"> <b>Telephone No.</b> </td> </tr> <tr> <td colspan="2" style="padding: 2px;"> <b>Facsimile No.</b> </td> </tr> <tr> <td colspan="2" style="padding: 2px;"> <b>Teleprinter No.</b> </td> </tr> </table>	<b>State of Nationality</b> GB	<b>State of Residence</b> GB	<b>Telephone No.</b>		<b>Facsimile No.</b>		<b>Teleprinter No.</b>	
<b>State of Nationality</b> GB	<b>State of Residence</b> GB								
<b>Telephone No.</b>									
<b>Facsimile No.</b>									
<b>Teleprinter No.</b>									

3. Further observations, if necessary: <b>Please be advised that the address of the agent has also been modified as indicated in the addressee box above.</b>
--

4. A copy of this notification has been sent to:	
<input checked="" type="checkbox"/> the receiving Office <input type="checkbox"/> the International Searching Authority <input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> the designated Offices concerned <input type="checkbox"/> the elected Offices concerned <input type="checkbox"/> other:

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No.: (41-22) 740.14.35	<b>Authorized officer</b>  Ting Zhao  Telephone No.: (41-22) 338.83.38
--	--

**PCT**

**NOTIFICATION OF THE RECORDING  
 OF A CHANGE**

(PCT Rule 92bis.1 and  
 Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

MAYALL, John  
 Intellectual Property Group  
 Avecia Limited  
 Hexagon House, P.O. Box 42  
 Blackley  
 Manchester M9 8ZS  
 ROYAUME-UNI

AVECIA LIMITED  
 IP GROUP  
 RECEIVED  
 27 SEP 1999

<b>Date of mailing (day/month/year)</b> 22 September 1999 (22.09.99)	<b>IMPORTANT NOTIFICATION</b>
<b>Applicant's or agent's file reference</b> SMC 60285/WO	
<b>International application No.</b> PCT/GB99/00655	<b>International filing date (day/month/year)</b> 05 March 1999 (05.03.99)

1. The following indications appeared on record concerning:						
<input checked="" type="checkbox"/> the applicant	<input type="checkbox"/> the inventor	<input type="checkbox"/> the agent				
<input type="checkbox"/> the common representative						
<b>Name and Address</b> AVECIA LIMITED 15 Stanhope Gate London W1Y 6LN United Kingdom	<b>State of Nationality</b> GB	<b>State of Residence</b> GB				
	<b>Telephone No.</b>					
	<b>Facsimile No.</b>					
	<b>Teleprinter No.</b>					
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:						
<input type="checkbox"/> the person	<input type="checkbox"/> the name	<input checked="" type="checkbox"/> the address				
<input type="checkbox"/> the nationality						
<input type="checkbox"/> the residence						
<b>Name and Address</b> AVECIA LIMITED Hexagon House Blackley Manchester M9 8ZS United Kingdom	<b>State of Nationality</b> GB	<b>State of Residence</b> GB				
	<b>Telephone No.</b>					
	<b>Facsimile No.</b>					
	<b>Teleprinter No.</b>					
<div style="border: 1px solid black; padding: 5px; display: inline-block;">           DATA ENTERED INTO ZIP-IS            TASK REMINDER CREATED            FOR ATTORNEY TO VERIFY            ZIP-IS ENTRY VERIFIED         </div> <div style="display: inline-block; vertical-align: top; margin-left: 10px;"> <table border="1"> <tr> <td>DATE</td> <td>INITIALS</td> </tr> <tr> <td>5 OCT 1999</td> <td>KMP</td> </tr> </table> </div>			DATE	INITIALS	5 OCT 1999	KMP
DATE	INITIALS					
5 OCT 1999	KMP					
3. Further observations, if necessary:						
4. A copy of this notification has been sent to:						
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned					
<input type="checkbox"/> the International Searching Authority	<input type="checkbox"/> the elected Offices concerned					
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:					

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No.: (41-22) 740.14.35	<b>Authorized officer</b>  H. Zhou  Telephone No.: (41-22) 338.83.38
--	--

# PCT

## REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference  
(if desired) (12 characters maximum) SMC 60285/WO

<b>Box No. I TITLE OF INVENTION</b>	
Composition	
<b>Box No. II APPLICANT</b>	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	
ZENECA Limited 15 Stanhope Gate LONDON W1Y 6LN	
<input type="checkbox"/> This person is also inventor.	
Telephone No. 0161 740 1460	
Facsimile No. 0161 721 5801	
Teleprinter No. 94014366 ZENSPEC	
State (that is, country) of nationality: GB	State (that is, country) of residence: GB
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input checked="" type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<b>Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)</b>	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	
YEATES, Stephen George PO Box 42, Hexagon House Blackley MANCHESTER M9 8ZS United Kingdom	
This person is: <input type="checkbox"/> applicant only <input checked="" type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)	
State (that is, country) of nationality: GB	State (that is, country) of residence: GB
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<input checked="" type="checkbox"/> Further applicants and/or (further) inventors are indicated on a continuation sheet.	
<b>Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE</b>	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: <input checked="" type="checkbox"/> agent <input type="checkbox"/> common representative	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	
MAYALL, John Intellectual Property Group ZENECA Specialties PO Box 42, Hexagon House Blackley, MANCHESTER M9 8ZS United Kingdom	
Telephone No. 0161 721 1794	
Facsimile No. 0161 721 5801	
Teleprinter No. 94014366 ZENSPEC	
<input type="checkbox"/> Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.	

Continuation of Box No. III FURTHER APPLICANTS AND/OR (FURTHER) INVENTORS

If none of the following sub-boxes is used, this sheet should not be included in the request.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

MEYRICK, Barry Houston  
PO Box 42, Hexagon House  
Blackley  
MANCHESTER M9 8ZS  
United Kingdom

This person is:

- ☐ applicant only  
☒ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:  
GB

State (that is, country) of residence:  
GB

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

HOLBROOK, Mark  
PO BOX 42, Hexagon House  
Blackley  
MANCHESTER M9 8ZS  
United Kingdom

This person is:

- ☐ applicant only  
☒ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:  
GB

State (that is, country) of residence:  
GB

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only  
☐ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only  
☐ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.

**Box No.V DESIGNATION OF STATES**

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

**Regional Patent**

- ☒ **AP ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SZ Swaziland, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line) .....

**National Patent (if other kind of protection or treatment desired, specify on dotted line):**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> AL Albania .....                               | <input checked="" type="checkbox"/> LS Lesotho .....                                   |
| <input checked="" type="checkbox"/> AM Armenia .....                               | <input checked="" type="checkbox"/> LT Lithuania .....                                 |
| <input checked="" type="checkbox"/> AT Austria .....                               | <input checked="" type="checkbox"/> LU Luxembourg .....                                |
| <input checked="" type="checkbox"/> AU Australia .....                             | <input checked="" type="checkbox"/> LV Latvia .....                                    |
| <input checked="" type="checkbox"/> AZ Azerbaijan .....                            | <input checked="" type="checkbox"/> MD Republic of Moldova .....                       |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina .....                | <input checked="" type="checkbox"/> MG Madagascar .....                                |
| <input checked="" type="checkbox"/> BB Barbados .....                              | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia ..... |
| <input checked="" type="checkbox"/> BG Bulgaria .....                              | <input checked="" type="checkbox"/> MN Mongolia .....                                  |
| <input checked="" type="checkbox"/> BR Brazil .....                                | <input checked="" type="checkbox"/> MW Malawi .....                                    |
| <input checked="" type="checkbox"/> BY Belarus .....                               | <input checked="" type="checkbox"/> MX Mexico .....                                    |
| <input checked="" type="checkbox"/> CA Canada .....                                | <input checked="" type="checkbox"/> NO Norway .....                                    |
| <input checked="" type="checkbox"/> CH and LI Switzerland and Liechtenstein .....  | <input checked="" type="checkbox"/> NZ New Zealand .....                               |
| <input checked="" type="checkbox"/> CN China .....                                 | <input checked="" type="checkbox"/> PL Poland .....                                    |
| <input checked="" type="checkbox"/> CU Cuba .....                                  | <input checked="" type="checkbox"/> PT Portugal .....                                  |
| <input checked="" type="checkbox"/> CZ Czech Republic .....                        | <input checked="" type="checkbox"/> RO Romania .....                                   |
| <input checked="" type="checkbox"/> DE Germany .....                               | <input checked="" type="checkbox"/> RU Russian Federation .....                        |
| <input checked="" type="checkbox"/> DK Denmark .....                               | <input checked="" type="checkbox"/> SD Sudan .....                                     |
| <input checked="" type="checkbox"/> EE Estonia .....                               | <input checked="" type="checkbox"/> SE Sweden .....                                    |
| <input checked="" type="checkbox"/> ES Spain .....                                 | <input checked="" type="checkbox"/> SG Singapore .....                                 |
| <input checked="" type="checkbox"/> FI Finland .....                               | <input checked="" type="checkbox"/> SI Slovenia .....                                  |
| <input checked="" type="checkbox"/> GB United Kingdom .....                        | <input checked="" type="checkbox"/> SK Slovakia .....                                  |
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| <input checked="" type="checkbox"/> GH Ghana .....                                 | <input checked="" type="checkbox"/> TJ Tajikistan .....                                |
| <input checked="" type="checkbox"/> GM Gambia .....                                | <input checked="" type="checkbox"/> TM Turkmenistan .....                              |
| <input checked="" type="checkbox"/> GW Guinea-Bissau .....                         | <input checked="" type="checkbox"/> TR Turkey .....                                    |
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| <input checked="" type="checkbox"/> ID Indonesia .....                             | <input checked="" type="checkbox"/> UG Uganda .....                                    |
| <input checked="" type="checkbox"/> IL Israel .....                                | <input checked="" type="checkbox"/> US United States of America .....                  |
| <input checked="" type="checkbox"/> IS Iceland .....                               | <input checked="" type="checkbox"/> UZ Uzbekistan .....                                |
| <input checked="" type="checkbox"/> JP Japan .....                                 | <input checked="" type="checkbox"/> VN Viet Nam .....                                  |
| <input checked="" type="checkbox"/> KE Kenya .....                                 | <input checked="" type="checkbox"/> YU Yugoslavia .....                                |
| <input checked="" type="checkbox"/> KG Kyrgyzstan .....                            | <input checked="" type="checkbox"/> ZW Zimbabwe .....                                  |
| <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea ..... |  |
| <input checked="" type="checkbox"/> KR Republic of Korea .....                     |  |
| <input checked="" type="checkbox"/> KZ Kazakhstan .....                            |  |
| <input checked="" type="checkbox"/> LC Saint Lucia .....                           |  |
| <input checked="" type="checkbox"/> LK Sri Lanka .....                             |  |
| <input checked="" type="checkbox"/> LR Liberia .....                               |  |

Check-boxes reserved for designating States (for the purposes of a national patent) which have become party to the PCT after issuance of this sheet:

- ☒ ..... India .....
- ☐ ..... .....

**Precautionary Designation Statement:** In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation of a designation consists of the filing of a notice specifying that designation and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.)

**Supplemental Box**

If the Supplemental Box is not used, this sheet should not be included in the request.

1. If, in any of the Boxes, **the space is insufficient** to furnish all the information: in such case, write "Continuation of Box No. ..." [indicate the number of the Box] and furnish the information in the same manner as required according to the captions of the Box in which the space was insufficient, in particular:

- (i) **if more than two persons are involved as applicants and/or inventors** and no "continuation sheet" is available: in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below;
- (ii) if, in Box No. II or in any of the sub-boxes of Box No. III, the indication **"the States indicated in the Supplemental Box"** is checked: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is applicant;
- (iii) if, in Box No. II or in any of the sub-boxes of Box No. III, **the inventor or the inventor/applicant is not inventor for the purposes of all designated States or for the purposes of the United States of America**: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor(s) and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is inventor;
- (iv) if, in addition to the agent(s) indicated in Box No. IV, there are **further agents**: in such case, write "Continuation of Box No. IV" and indicate for each further agent the same type of information as required in Box No. IV;
- (v) if, in Box No. V, the name of any State (or OAPI) is accompanied by the indication **"patent of addition,"** or **"certificate of addition,"** or if, in Box No. V, the name of the United States of America is accompanied by an indication **"continuation"** or **"continuation-in-part"**: in such case, write "Continuation of Box No. V" and the name of each State involved (or OAPI), and after the name of each such State (or OAPI), the number of the parent title or parent application and the date of grant of the parent title or filing of the parent application;
- (vi) if, in Box No. VI, there are **more than three earlier applications whose priority is claimed**: in such case, write "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI;
- (vii) if, in Box No. VI, **the earlier application is an ARIPO application**: in such case, write "Continuation of Box No. VI", specify the number of the item corresponding to that earlier application and indicate at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed.

2. If, with regard to the **precautionary designation statement** contained in Box No. V, the applicant wishes to exclude any State(s) from the scope of that statement: in such case, write "Designation(s) excluded from precautionary designation statement" and indicate the name or two-letter code of each State so excluded.

3. If the applicant claims, in respect of any designated Office, the benefits of provisions of the national law concerning **non-prejudicial disclosures or exceptions to lack of novelty**: in such case, write "Statement concerning non-prejudicial disclosures or exceptions to lack of novelty" and furnish that statement below.

**Continuation of Box IV**

FAWKES, David Melville  
KIRK, Martin John  
PUGSLEY, Roger Graham  
REVELL, Christopher  
SHELLER, Alan  
WALTERS, Stephen Terry

ALL of Intellectual Property Group, Zeneca Specialties, PO Box 42, Hexagon House, Blackley,  
MANCHESTER, M9 8ZS, United Kingdom.

LOCKE, Timothy John

of Intellectual Property Group, Zeneca LifeScience Molecules, PO Box 2, Belasis Avenue,  
BILLINGHAM, Cleveland, TS23 1YN, United Kingdom.

Box No. VI PRIORITY CLAIM		<input type="checkbox"/> Further priority claims are indicated in the Supplemental Box.		
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application: regional Office	international application: receiving Office
item (1) 31 March 1998 31/03/1998	9806788.7	GB		
item (2)				
item (3)				

☒ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s): 1

\* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

### Box No. VII INTERNATIONAL SEARCHING AUTHORITY

**Choice of International Searching Authority (ISA)**  
(if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA / EPO

**Request to use results of earlier search; reference to that search** (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year)      Number      Country (or regional Office)

### Box No. VIII CHECK LIST; LANGUAGE OF FILING

This international application contains the following number of sheets:

request : 05  
description (excluding sequence listing part) : 17  
claims : 02  
abstract : 01  
drawings : 00  
sequence listing part of description : 00

**Total number of sheets** : 25

This international application is accompanied by the item(s) marked below:

- ☒ fee calculation sheet
- ☒ separate signed power of attorney
- ☐ copy of general power of attorney; reference number, if any:
- ☐ statement explaining lack of signature
- ☐ priority document(s) identified in Box No. VI as item(s):
- ☐ translation of international application into (language):
- ☐ separate indications concerning deposited microorganism or other biological material
- ☐ nucleotide and/or amino acid sequence listing in computer readable form
- ☐ other (specify):

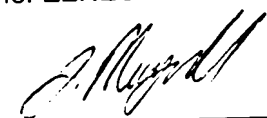
**Figure of the drawings** which should accompany the abstract:

**Language of filing** of the international application: ENGLISH

### Box No. IX SIGNATURE OF APPLICANT OR AGENT

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

for ZENECA Limited S.G.Yeates, B.H.Meyrick and M.Holbrook



MAYALL, John

For receiving Office use only		2. Drawings:  <input type="checkbox"/> received:  <input type="checkbox"/> not received:
1. Date of actual receipt of the purported international application:		
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA /	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid.	

Date of receipt of the record copy by the International Bureau:

For International Bureau use only



## P. . ENT COOPERATION TREA

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
 United States Patent and Trademark  
 Office  
 Box PCT  
 Washington, D.C.20231  
 ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 22 November 1999 (22.11.99)	
<b>International application No.</b> PCT/GB99/00655	<b>Applicant's or agent's file reference</b> SMC 60285/WO
<b>International filing date</b> (day/month/year) 05 March 1999 (05.03.99)	<b>Priority date</b> (day/month/year) 31 March 1998 (31.03.98)
<b>Applicant</b> YEATES, Stephen, George et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

18 October 1999 (18.10.99)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
 34, chemin des Colombettes  
 1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Olivia RANAIVOJAONA

Telephone No.: (41-22) 338.83.38